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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,939	01/30/2004	Fumito Nariyuki	FS-F03228-01	4131
37398	7590	02/05/2007		
TAIYO CORPORATION 401 HOLLAND LANE #407 ALEXANDRIA, VA 22314			EXAMINER CHEA, THORL	
			ART UNIT	PAPER NUMBER
			1752	

  

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/05/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/766,939

Applicant(s)

NARIYUKI, FUMITO

Examiner

Thorl Chea

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7, 9-14 and 21-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 21-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This office action is responsive to the communication on November 14, 2006; claims 1-7, 9-14, 21-26 are pending in this instant application; claims 8, 15-20 have been canceled.

#### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7, 9-12, 14, 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al (US Patent No. 6,210,983), Siga et al (US Patent No. 4,332,889) and Toya et al (US Patent No. 5,656,419).

Okada et al disclose a process for forming image in a photothermographic material comprising an image-wise exposing to radiation source and thermally developing the image-wised exposed material with a developing time from 1 to 180 second at the temperature 80 °C to 250 °C (column 44, lines 42-53). The photothermographic material contains an organic silver salt, a photosensitive silver halide, a reducing agent and a compound of the formula X-L<sub>1</sub>-D wherein D is an electron donative group, X is an adsorption promoting group to silver halide, and L<sub>1</sub> is a valent bond or a linking group (abstract and columns 3-22). The silver halide includes silver iodide and silver iodobromide having silver iodide content 0.1 to 40 mole % (column 36, lines 3-17). The silver halide should preferably have a smaller grain size for the purpose of minimizing white turbidity after image formation, preferably 0.01 micron to 0.15 micron (column 35, lines 37-51). The preferred reducing agent is hindered phenol and bisphenols (column 38, lines 45-50).

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and column 39, lines 30-33). See also toning agent is disclosed in column 39, lines 40-68 to column 40, lines 1-20; the mecapto compound for retarding or accelerating development in column 40, lines 20-25; the ultra-high contrast agent such as hydrazine in column 42, lines 66-67 to column 43, lines 1-43; the matting agent in column 26, lines 21-67; and antifoggants including halogen-substituted organic compound in column 42, lines 27-53. Okada discloses the silver halide including silver iodide and silver iodobromide having silver iodide content from 0.1 to 40 mole % and the a compound of formula X-L<sub>1</sub>-D. The silver iodide and silver iodide overlaps the scope of silver halide having silver iodide content of 40 mole % to 100 mole % present in the claimed invention. The scope of silver iodide in Okada et al is considered as silver halide having 100 mole % of iodide and the upper limit of silver iodide content (40 mole %) in silver iodobromide taught in Okada et al overlaps 40 mole % of the silver iodide content claimed in the present claimed invention. The compound of formula (I) and the scope of the compound presented in claim 24 are within the scope of generic formula X-L<sub>1</sub>-D taught in Okada et al.

Siga disclose in column 6, lines 43-68 disclose the relative amount of the silver iodide with respect to silver bromide to satisfy the sensitivity condition and storage condition. It is disclosed that "from the view point of sensitivity of image forming material, the silver halide is desired to contains, beside silver iodide, at least 2 mole %, based on silver halide component, silver bromide and/or silver chloride, although the silver halide may include only silver iodide, i.e. 100 mole % of silver iodide. Furthermore, from view point of stability of the raw image forming material, it is desired that silver halide component contains, besides silver iodide, silver bromide than silver chloride. Therefore, the most preferred silver halide component consists of silver iodide and silver bromide. In this case, silver iodide and silver bromide may be provided in either

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a mixture thereof or mixed crystals thereof. The molar ratio of silver iodide to silver bromide may be preferably 30/70 to 98/2, more preferably 50/50 to 95/5." Toya et al disclose polyhalogenate compound and the bisphenols reducing agent is taught in column 28, claims 14-15 and the is disclosed in column 20, formula (A).

Okada discloses a process of developing a heat developable material developing time from 1 to 180 second at the temperature 80 °C to 250 °C, which encompasses the scope of developing time of 1 to 12 second, claimed in the present claimed process. Moreover, the material of Okada et al contains silver halide inducing silver iodide; the compound having functional property similar to that of the compound of formula (I), and the antifoggants including halogen-substituted organic compound. The silver halide having iodide content from 40 to 100 mole % including the function of silver iodide has been also known in Siga et al . The halogenated antifoggant compound also has been known in Toya. Therefore, the material of the present claimed invention contains the additives conventionally used in the photothermographic material. Therefore, it would have been obvious to the worker of ordinary skill in the art at the time the invention was made to use silver halide having high iodide such as using the silver iodide suggested in Okada et al or the silver halide having iodide content taught in Siga et al in combination with the use of known antifoggants taught in Toya et al, and use thereof in the process of developing the material within the developing time from 1 to 180 second at the temperature 80 °C to 250 °C with an expectation of achieving having good print-out and low fog.

4. Claim 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Okada et al (US Patent No. 6,210,983), Siga et al (US Patent No. 4,332,889) and Toya et al (US Patent No. 5,656,419) as applied to claims 1-7, 9-12, 14, 21-26 above, and

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further in view of Toya et al (US Patent No. 5,998,126) . Okada et al may not disclose the use of laser beam that has light emission peak intensity within a wavelength range from 350 to 450 nm in claim 13, but Toya et al in column 2, lines 1-12 disclose to expose the photothermographic material using semiconductor diode producing wavelength from 300 nm to less than 700 nm. It would have been obvious to the worker of ordinary skill in the art at the time the invention was made to use laser available inexpensive semiconductor laser diode taught in Toya et al with a reasonable expectation of little obstruction encountered in reading a transmission image even when a sensitizing dye or dyesstuff having  $\lambda_{\max}$  in this wavelength left in the photographic material.

#### ***Response to Arguments***

5. Applicant's arguments filed March 21, 2006 have been fully considered but they are not persuasive because of the reason set forth in the rejection above for the reason set forth in the office action on May 16, 2006.

The applicants argue that "Additional experimental data is herewith submitted in a form of declaration under 37 C.E.R. § 1.132. Unexpectedly superior results are shown in the declaration in terms of unprocessed (raw) storability. The declaration is commensurate with the scope of amended claim 1, and supplemented with additional test results in response to Examiner's argument. Unobviousness of the present invention over Okada, Siga Toya, or any combination thereof is well established with the declaration".

It is still the Examiner's position that the invention as claimed would have been prima facie obvious over the combination of the applied prior art above. The applicants appears to argue that the compound of formula (I) is outside the scope of the compound of formula X-L<sub>1</sub>-D taught in

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Okada et al. The applicants use the compounds (2), (6), (17) and (20) as the compound of Okada et al and the compound of formula (2), (6), (11), (17), (20), (28), (32), (34) and (73) of the present specification disclosure as the inventive compound. However, the compounds (11), (17), (20) that having the functional groups (  $-\text{CONHOH}$ ), (  $-\text{NHCOCH}_3\text{OH}$ ) and (  $-\text{NHCONHOH}$ ) are within the functional groups shown in columns 13-14, compounds (7), (8), (11). There is no difference in scope between the "X" group of the compound of Okada et al and the "A" group presented in the claimed invention. The "B" groups shown in the claims represent only the reducing group which is preferred in Okada et al. Therefore, there is no difference between the scope of the claimed compound and the compounds disclosed in Okada et al. The worker of ordinary skill in the art would have used the preferred compound taught in Okada et al in combination with silver iodide disclosed therein knowing the stability thereof taught in Siga et al in combination with the known polyhalogenate antifoggant taught in Toya et al with an expectation of achieving similar results. The results shown in the Declaration is not commensurate with the scope of the claims. See silver halide emulsions 92), (3) and (4) presented in the Declaration. The emulsions (2), (3) are silver iodidobromide, and the emulsion 4 is pure silver iodide. The scope of the claims is silver halide having silver iodide content from 40 to 100 mole %, which encompasses the scope other than silver iodobromide. The reducing agent in the samples is bisphenols reducing agent and the silver salt of an organic acid is a silver salt of an aliphatic carboxylic acid, mainly silver behenate. The applicants are suggested to compare the scope of the material shown in the Declaration and the scope of the claimed material. "[A]ppellants have the burden of explaining the data in any declaration they proffer as

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evidence of non-obviousness.” Ex parte Ishizaka, 24 USPQ2d 1621, 1624 (Bd. Pat. App. & Inter. 1992).

***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thorl Chea whose telephone number is (571) 272-1328. The examiner can normally be reached on 9 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (571)272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished



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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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2007-01-25

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